

HP Modular Power Distribution Unit Kit

Installation Instructions



Overview

These installation instructions are provided to assist qualified personnel with the installation of the HP Modular Power Distribution Unit (mPDU) Kit.

The input voltage of a single phase mPDU is either 100 to 127 VAC or 200 to 240 VAC, depending on the model.

The input voltage of a three phase mPDU is 200 to 240 VAC, phase-phase or phase-neutral, depending on the model.

The control unit (if included) provides the following features:

- Flexible mounting in 0U or 1U configurations, maximizing rack space (no additional parts are required for mounting)
- Overcurrent and short-circuit protection for each output (UL-489-listed circuit breakers)
- Manual on/off control for each of the output load groups
- Pilot light for main AC input (depending on the model)
- IEC-320 C19 outlets to power extension bars or other IEC-320 C20 plug-compatible equipment
- Easy identification and reset of overload circuits (circuit breakers move to Off position), minimizing downtime
- Power cord retention
- Recessed handles to prevent inadvertent power-off

The extension bars (if included) provide the following features:

- Multiple power outlets, conveniently located for quick and easy equipment power connections
- Lighted main power indicator
- Attached 2-m (6-ft) input power cords
- Power cord retention and power cord labeling

Modular PDU models

To view the most recent modular PDU information, see the HP website (<http://www.hp.com/go/rackandpower>).

From there, you can navigate to the appropriate page by following the steps below.

1. Click **Power infrastructure**.
2. Click **Power distribution units**.
3. Click **Modular**.

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Important safety information

⚠ Important Safety Information

Before installation, read *Important Safety Information* on the Documentation CD.

قبل التثبيت، اقرأ معلومات هامة حول السلامة على القرص المضغوط Documentation CD.

Před instalací si přečtěte příručku *Dôležité bezpečnostní informace* na disku CD.

安装之前, 请阅读文档 CD 上的重要安全信息。

安装前, 請閱讀說明文件光碟上的「重要的安全性資訊」。

Læs dokumentet. Vigtige sikkerhedsoplysninger på dokumentations-cd'en, før produktet installeres.

Lesen Sie vor der Installation die *Sicherheitshinweise* auf der Documentation CD.

Enne installimist vt dokumentatsiooni CD-llt peatükki „*Tähtis ohutusesteave*“.

Antes de la instalación, lea la sección *Información de seguridad importante* del CD Documentación.

Avant l'installation, lisez les *informations importantes relatives à la sécurité* CD Documentation.

Πριν την εγκατάσταση, διαβάστε *Σημαντικές πληροφορίες ασφαλείας* στο CD Documentation.

(주의) Documentation CD-בש בוגר טוֹרְמָה עֲמִילָה עַל תִּתְהַנְּתַן.

Prije ugradnje, pročitajte *Važne sigurnosne informacije* na dokumentacijskom CD-u.

Prima dell'installazione, leggere sul CD le informazioni importanti sulla sicurezza.

インストール前に、Documentation CDの『安全に使用していただくために』をお読みください。

설치하기 전에 Documentation CD의 주요 안전 수칙을 읽으십시오.

Pirms instalācijas, izlasiet drošības informāciju dokumentācijas CD.

Prieš diegdamis perskaitykite *Svarbią saugos informaciją* dokumentacijos CD.

Telepítés előtt olvassa el a dokumentációs CD *Fontos biztonsági tudnivalók* dokumentumát.

Lees de *Belangrijke veiligheidsinformatie* op de documentatie-cd voordat u de installatie uitvoert.

Les "Viktigt sikkerhetsinformasjon" på dokumentasjons-CDen før du installerer dette produktet.

Przed instalacją przeczytaj *Ważne informacje dotyczące bezpieczeństwa*

na dysku CD Documentation.

Antes da instalação, leia as *Informações Importantes sobre Segurança* no CD da Documentação.

Перед установкой ознакомьтесь с разделом *Указания по технике безопасности* на компакт-диске «Документация».

Pred instaláciou si prečítajte časť *Dôležité bezpečnostné informácie* na disku Documentation CD.

Pred nameštaním preberite *Pomembne varnostne informacije* na CD-ju Documentation.

Tärkeisiin turvatuotioihin" Documentation CD -levyllä ennen tuotteen asentamista.

Läs dokumentet *Viktigt säkerhetsinformation* på dokumentations-cd:n innan du installerar denna produkt.

Yüklemeden önce, Documentation CD'sindeki *Önemli Güvenlik Bilgileri*'ni okuyun.

Перед установкою прочитайте *Важливі відомості з безпеки* на CD документації.

NOTE: The extension bars that ship with this kit are only for use with Compaq/HP models EO4500, EO4501, EO4502, EO4503, EO4504, EO4505, EO4506, HSTNR-P011, and HSTNR-P012 Power Distribution Control Units and HP Uninterruptible Power Supplies (UPS).

WARNING: To reduce the risk of personal injury from electric shock, do not remove the cover. There are no field-serviceable or user-serviceable components inside.

WARNING: A risk of personal injury from electric shock and hazardous energy levels exists. The installation of options and routine maintenance and service of this product must be performed by individuals who are knowledgeable about the procedures, precautions, and hazards associated with AC power products.

Follow these safety precautions when connecting multiple hardware components to power sources.

WARNING: To reduce the risk of personal injury or damage to the equipment:

- Plug the input power cord into a grounded (earthed) electrical outlet that is located near the equipment and is easily accessible.
- Be sure that the load products connected to the mPDU are adjusted for, or otherwise capable of operation from the same line voltage supplying the mPDU. Failure to verify the voltage can lead to severe equipment damage.
- Do not overload the mPDU. The total input current rating of all equipment connected to each output cannot exceed the total output rating marked on the mPDU.



WARNING: To reduce the risk of personal injury from high-leakage current, verify earth connection before connecting the power supply.

The summation of input power for multiple pieces of information technology equipment through the use of power products can result in high-leakage currents.

If the total system leakage current for a system of components exceeds 3.5 mA:

- The use of a detachable input power cord is prohibited.
- The input power cord must be securely attached, and it should be connected to the AC mains by hardwiring or through the use of a non-residential, industrial-style plug that maintains positive earth connection.
- If the total system leakage current through the ground conductor exceeds 5% of the input current per line under normal operating conditions, the system loads should be divided among multiple power connections.

Regulatory compliance information

All regulatory certifications for these products were obtained under the following agency series numbers:

Control unit	Series number
228481-001	EO4500
228481-002	EO4501
228481-003	EO4502
228481-004	EO4503
228481-006	EO4504
228481-007	EO4505
228481-008	EO4506
435530-001	HSTNR-P011
435530-003	HSTNR-P012
458745-001	HSTNR-P016N
481337-001	HSTNR-P017
484168-001	HSTNR-P016-A

Extension bar	Series number
411273-001	HSTNR-PS02
411273-002	HSTNR-PS03
228480-003	EO4602

Kit contents

Control unit hardware (if included)

The following hardware pieces are included:

- Control unit with extension bars
 - 0U mounting brackets (2)
 - 1U mounting brackets (2)

- o Cord retention bracket (1)
 - o Jumper cords in the high-voltage model kits (2)
 - or-
- Control unit
 - o 0U mounting brackets (2)
 - o 1U mounting brackets (2)
 - o Cord retention bracket (1)

Extension bar hardware (if included)

This kit might contain extra pieces of hardware for your convenience.

Model	Number of extension bars	Number of single/double brackets	Number of extension bar power cord retention bands	Number of control unit tie wraps
252663-D71 NA/JPN	4	8/4	40	6
252663-B24 WW	2	4/2	40	6
252663-D72 NA/JPN	4	8/4	40	6
252663-B31 INTL	4	8/4	40	6
252663-B21 WW	5	8/4	40	6
252663-D73 NA/JPN	4	8/4	40	6
252663-B32 INTL	4	8/4	40	6
252663-D74 NA/JPN	0	0	0	6
252663-B33 INTL	0	0	0	6
252663-D75 NA/JPN	0	0	0	6
252663-B34 INTL	0	0	0	6
AF500A	2	4/2	40	0
AF501A	2	4/2	40	0
AF511A	0	0	0	6

Model	Number of extension bars	Number of single/double brackets	Number of extension bar power cord retention bands	Number of control unit tie wraps
AF512A	0	0	0	6
AF513A	0	0	0	6
AF518A	0	0	0	6
AF519A	0	0	0	6

Required tools

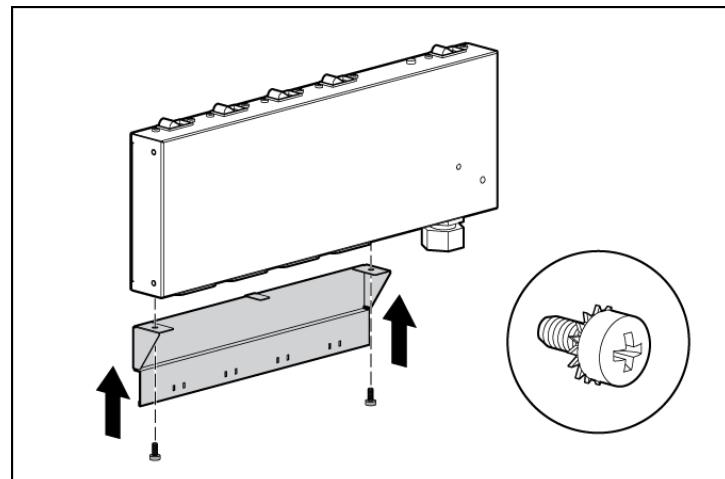
The following tools are required for installation:

- Phillips screwdriver
- T-25 Torx driver
- Cage nut insertion tool (included with your original rack hardware)

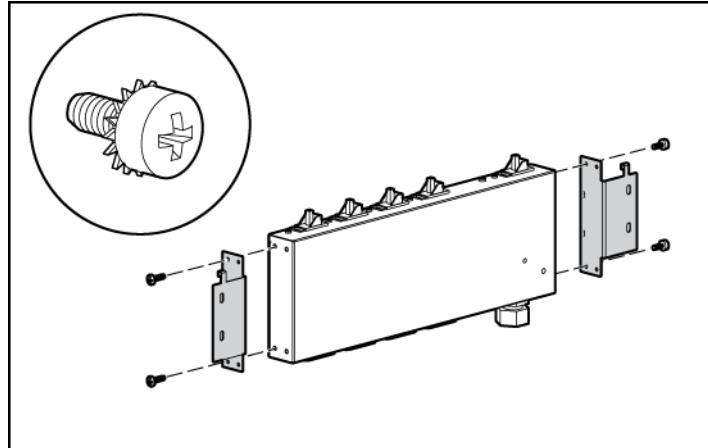
Installing the control unit

Installing the control unit cord retention bracket (if included)

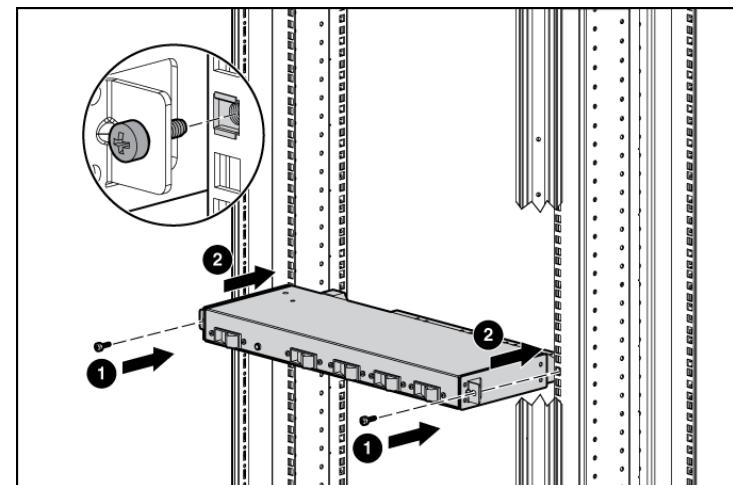
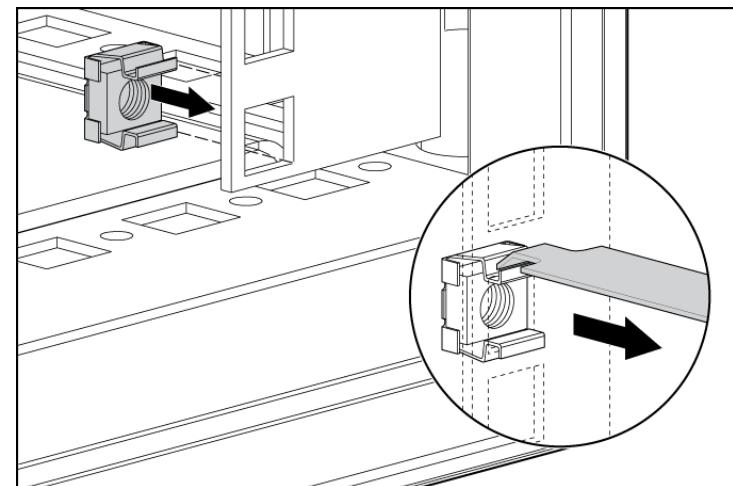
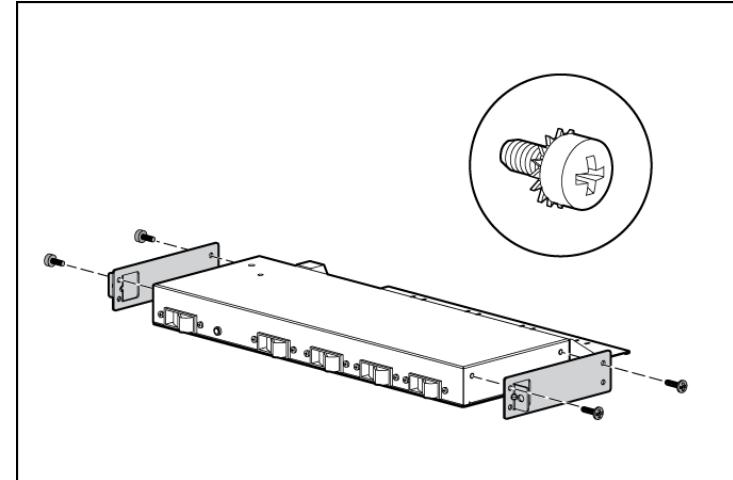
The control unit cord retention bracket is shown for clarification in the following diagram, though installation of the control unit cord retention bracket is optional.



Installing the 0U brackets

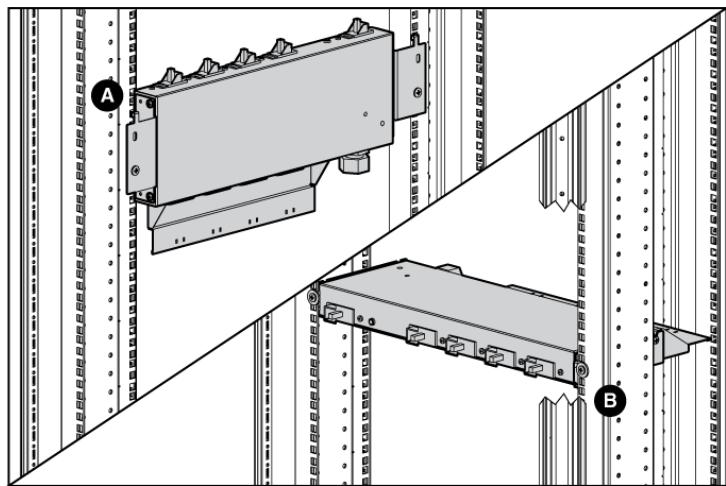


Installing the 1U brackets



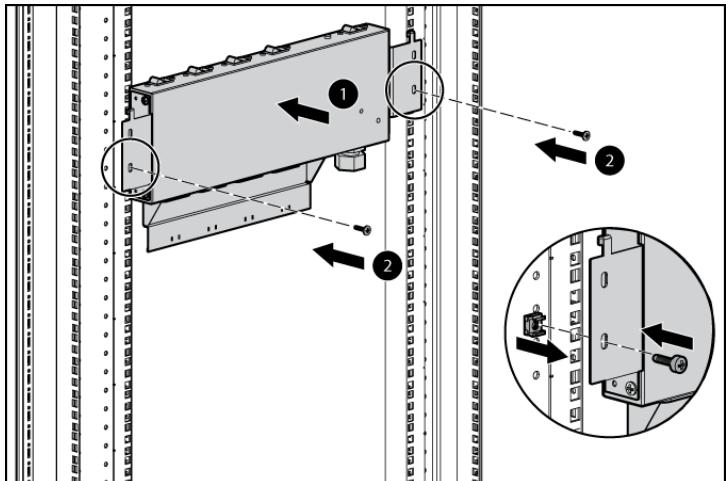
Installing the control unit in the rack

The control unit can be mounted in the rack two different ways, depending on whether you install the 0U brackets (A) or the 1U brackets (B) to the control unit.



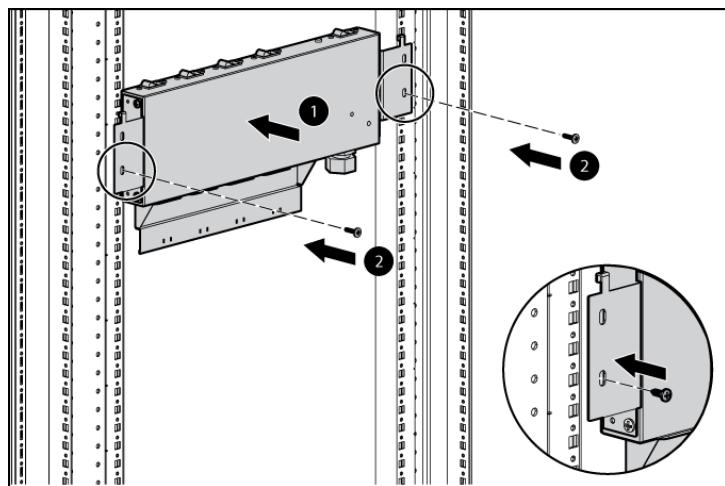
Installing the control unit in a square-holed rail

NOTE: Use the M6 screws and cage nuts that shipped with the rack when installing in a square-holed rail.



Installing the control unit in a square- and round-holed rail

NOTE: Use the sheet metal mounting screws that are included with this kit when installing in a square- and round-holed rail.

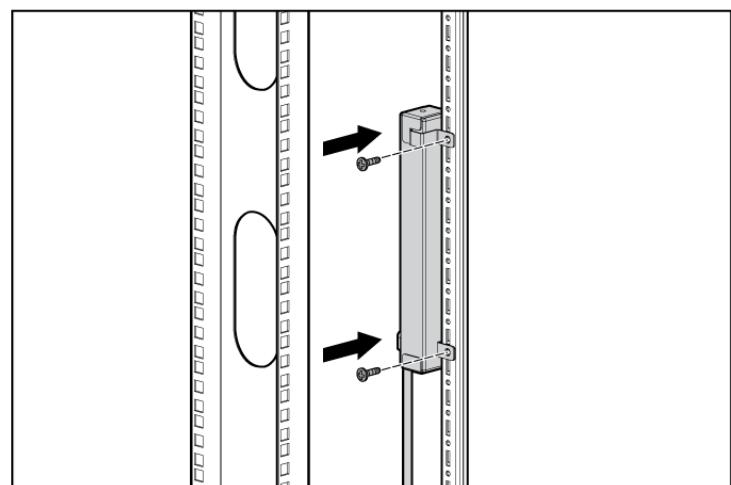
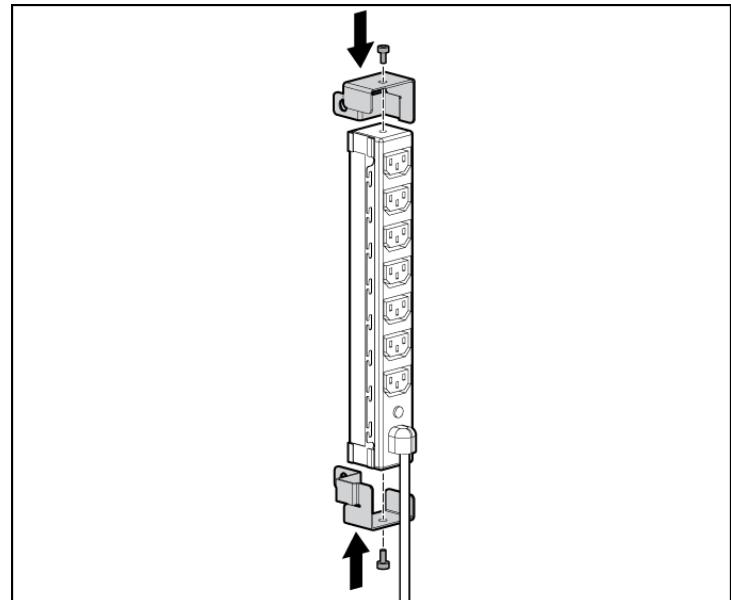
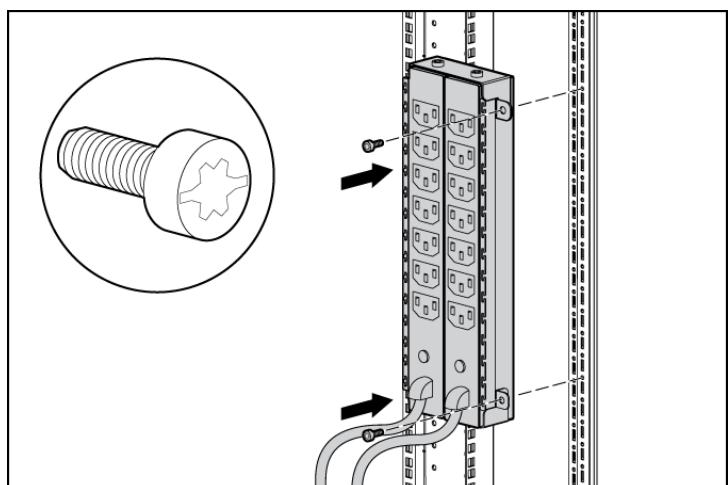
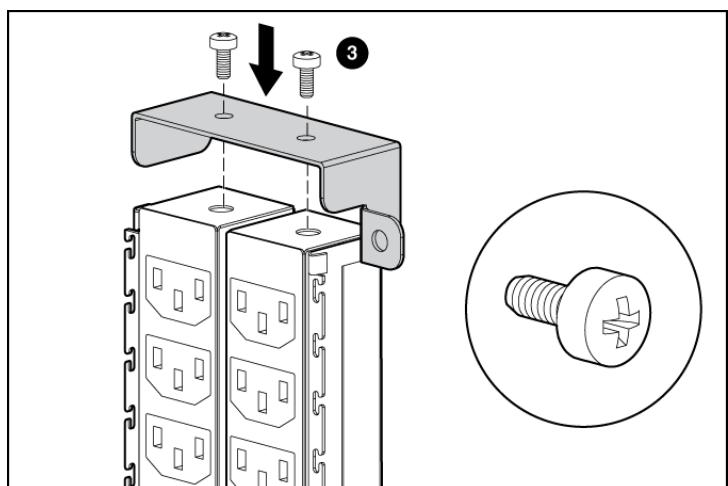
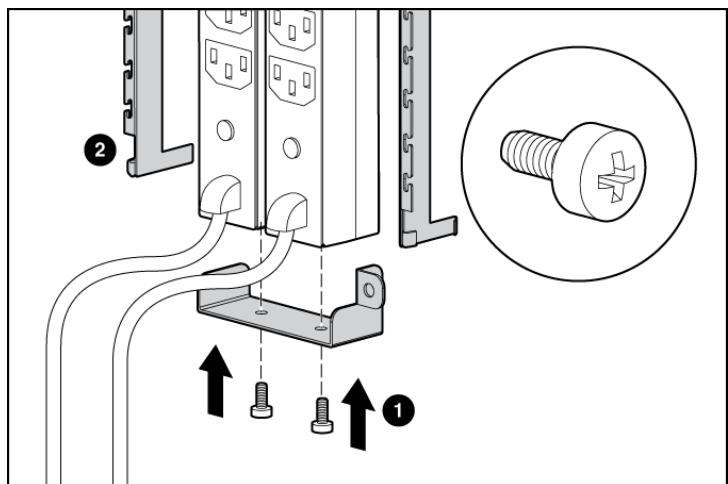


Installing the extension bars (if included)

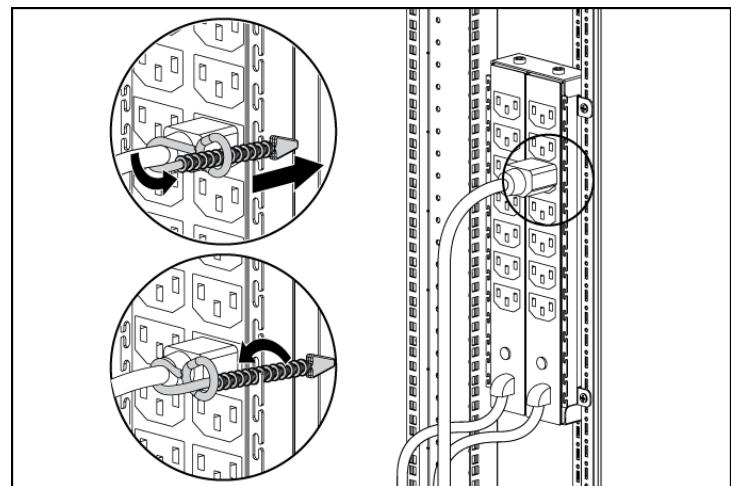
The cord retention brackets are shown for clarification in the following diagrams, though installation of the cord retention brackets is optional.

NOTE: Follow these same instructions when using a single-wide extension bar bracket.

Installing the extension bars using single stick mounting brackets



Connecting and securing the power cords

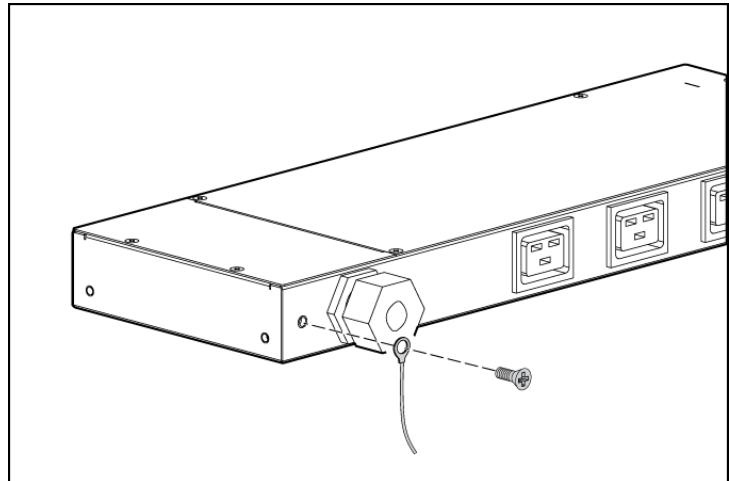


Connecting the ground bonding cable

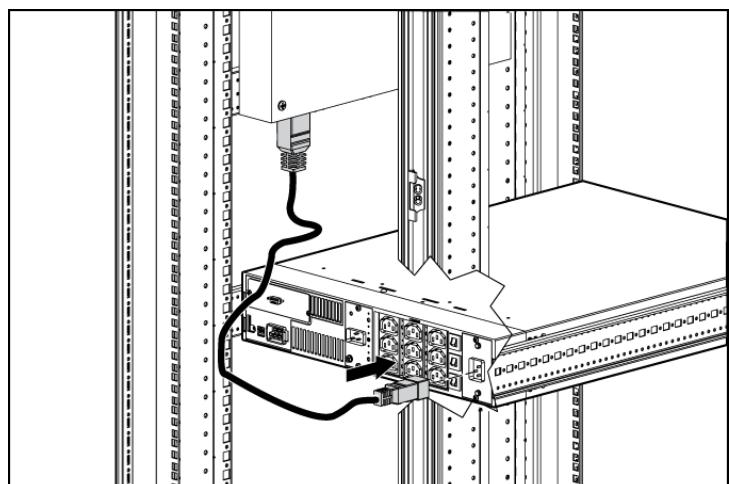
NOTE: This section is only applicable if a control unit was shipped as part of your kit.

The ground bonding screw is provided as an attachment point for conductors. Use a ground bonding cable if the rack contains any conductors for the purpose of functional grounding or bonding of ungrounded metal parts.

The ground bonding cable is not included in this kit.



Connecting the 16-A modular PDU (model 252663-B24 WW) to the power source



Hardwiring the 40-A modular PDU

The 40-A modular PDU (model 252663-B21 WW) must be hardwired by a qualified electrician in accordance with local electrical installation codes.

Connecting devices

When connecting devices, distribute the loads evenly to remain within the capability of the extension bars and control unit.

Control unit	Total rating of control unit	Outlet style	Load CB rating	Individual outlet rating
228481-001	24 A	IEC 320-C19	15 A	12 A
228481-002	24 A	IEC 320-C19	15 A	12 A
228481-003	32 A	IEC 320-C19	15 A	12 A
228481-004	40 A	IEC 320-C19	15 A	12 A
228481-006	16 A	IEC 320-C19	10 A	8 A
228481-007	40 A	IEC 320-C19	15 A	12 A
228481-008	40 A	IEC 320-C19	15 A	12 A
435530-001	41.6 A	IEC 320-C19	20 A	16 A
435530-003	48 A	IEC 320-C19	16 A	16 A
458745-001	83.13 A	IEC 309-C19	20 A	16 A
481337-001	96 A	IEC 309-C19	16 A	16 A
484168-001	40 A	IEC 320-C19	20 A	16 A

Extension bar	Total rating of extension bar	Outlet style	Individual outlet rating
411273-001	16 A	NEMA 5-15R	12 A
411273-002	16 A	IEC 320-C13	10 A
228480-003	12 A	IEC 320-C19	12 A

Checking the circuit breakers

If power to a device is interrupted, check the circuit breakers and reset if necessary. If power is still not restored, contact your HP authorized service representative.

有毒、有害物质/元素及其含量表

依照中国《电子信息产品污染控制管理办法》

部件名称	有毒、有害物质和元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴代二苯醚 (PBDE)
机箱/其它	X	0	0	0	0	0
印刷电路组件 (PCAs)	X	0	0	0	0	0
存储设备	X	0	X	0	0	0
电缆和配线	X	0	0	0	0	0
平板显示器	X	X	0	0	0	0
密封铅酸 (SLA) 电池	X	0	0	0	0	0
连接器/断路器触头	X	0	X	0	0	0

○: 表示此部件使用的所有同类材料中, 此种有毒或有害物质的含量均低于 SJ/T11363-2006 规定的限制要求。

X: 表示此部件使用的至少一种同类材料中, 此种有毒或有害物质的含量高于 SJ/T11363-2006 规定的限制要求。

此表中所有名称中含“X”的部件均符合欧盟 RoHS 立法

—“2003 年 1 月 27 日欧洲议会和欧洲理事会关于在电气电子设备中限制使用某些有害物质的指令 2002/95/EC”。

只有使用荧光灯管的平板显示器中含有汞。只有不间断电源系统 (UPS) 和运行时间延长模块 (ERM) 中含有密封铅酸 (SLA) 电池。只有 UPS 和电源分配单元 (PDU) 中使用的连接器/断路器触头中可能含有镉。

注: 所引用的环保使用期限标记根据产品的正常操作使用条件 (如温度和湿度) 确定。



除非另有标明, 此电子信息产品污染控制标记适用于
HP 品牌的企业存储和服务器产品。